

Canadian Institute of Resources Law
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**Animal Identification & Traceability
Regulations in the Alberta Cattle Industry:
Subtle Applications of the Precautionary Principle
in Animal Disease Prevention**

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Dedication

Thank you to family, friends, & mentors who encouraged me throughout my studies, and thanks especially to my late mother Helen whose passion for teaching inspired me to further my study of law and to my late father Elmo whose favorite expression “if you ever have a sick cow...don’t call me”, gives new meaning to my research.

ABSTRACT

The discovery of a single case of BSE on a remote farm in northern Alberta on May 20, 2003 had disastrous economic consequences for the province. The resulting crisis caused panic throughout the Canadian industry and resulted in lost export market access for our nation's cattle. Outbreaks of animal disease including BSE have subsequently been addressed by enhanced federal and provincial regulations including mandatory animal identification, premise identification and animal movement. BSE is thought to be preventable by implementing specific precautionary measures including specified risk material (SRM removal), enhanced feed bans (EFB), and enhanced animal surveillance practices. This paper will present specific aspects of mandatory animal identification and BSE prevention in Canada with specific reference to the province of Alberta. There is compelling reason to conclude that together these BSE prevention measures have effectively addressed the incidence of BSE in the Canadian cattle herd. Equivalent measures have also been adopted by other beef producing countries including the USA and EU. Animal identification regulatory frameworks can potentially serve to offer additional benefits to consumers, including product quality assurances and other attributes. Existing penalty frameworks for noncompliance are in many cases inadequate to the extent that they reflect neither traditional sentencing principles nor the polluter pays principle.

1.0 INTRODUCTION

Agriculture is a critical natural resource and serves as our primary source of food.¹ Historically, agriculture has been of tremendous economic significance in Canada. Alberta, in particular, is often described as the heart of the Canadian beef industry. Agriculture also defines western Canadian culture and heritage. In recent years, the industry has experienced rapid growth and witnessed the expansion of intensive industrial farming operations, often described as factory farming.² Exports are equally significant. Notably, export markets for Canadian live beef and slaughter beef products include the United States (US) and Mexico.³

Constitutional authority for legislating and regulating agricultural production and food safety in Canada is shared by the federal and provincial governments.⁴ A primary objective of both heads of government is securing safe and sustainable agricultural products for domestic and export consumption. The announcement of the discovery of a single cow infected with bovine spongiform encephalopathy (BSE) in Alberta on May 20, 2003 had immediate and disastrous consequences throughout the Canadian beef industry. The situation was made worse when it was subsequently determined that the infected animal was born, fed and raised in Canada.⁵ The isolated single discovery caused significant economic losses including loss of export markets in excess of 10 billion dollars.⁶ The immediate economic impact of the BSE discovery is graphically described by Weerahawa et al:

Cattle prices at one Alberta auction dropped from \$1.20/lb. to \$0.32/lb. before most cattle were taken off the market. Slaughter plants in Canada stopped accepting new cattle because of limited capacity and lost foreign sales. The Canadian government stopped all beef shipments not already in transit. Some live animals already in the United States were returned to Canada. The resulting dislocation in the Canadian cattle industry was unprecedented with catastrophic implications for the entire domestic supply chain.⁷

Further evidence of political disconnect resulted from comments delivered in October of the same year by the Premier of Alberta to a meeting of fellow western premiers and state governors at the Western Governors' Association meeting in Montana. In his remarks, Premier Klein emphatically stated that "any self-respecting rancher would have shot, shovelled and shut up".⁸ Whatever his

¹ Susan A. Schneider, "A Reconsideration of Agricultural Law: A Call for the Law of Food, Farming, and Sustainability" (2010) 34 Wm & Mary Env'tl L Rev 935 at 947.

² See e.g. Paul Muldoon, et al., *An Introduction To Environmental Law And Policy In Canada* (Toronto: Emond Montgomery Publications, 2009) at 109.

³ Alberta Beef, "Canada's Beef Industry" (2013), online: www.albertabeef.org/uploads/CanadianBeefIndustry->

⁴ See *Constitution Act*, 1982, s 35, being Schedule B to the Canada Act 1982 (UK), 1982, c 11, s 95.

⁵ Danny Leroy, Jeevika Weerahewa & David Anderson, "Disruption in the Supply Chain for Beef and Pork: What Has Happened And What Was NAFTA Doing", (Paper delivered at the 2nd Annual N American Agrifood Market Integration Workshop, San Antonio, Tx, 5 May 2005) [unpublished] at 2.

⁶ Laura Loppacher, William Kerr & Van Vliet, "The BSE Crisis in Canada: A Trade Perspective on Sanitary Barriers", (2004), Estey Centre for Law and Economics in International Trade, Working Paper at 3 online: <www.uoguelph.ca/catprn/PDF/BSE_Crisis_Canada.pdf>

⁷ Jeevika Weerahewa, Karl D Meilke & Danny LeRoy, "An Economic Assessment of the BSE Crisis in Canada: Impacts of Border Closure and BSE Recovery Programs" (2007) Canadian Agricultural Trade Policy Network (CATPRN) Working Paper 2007-1 at 2.

⁸ Kelly Cryderman, "Any Self-Respecting Rancher Would Have Shot, Shoveled and Shut Up-Klein Feels Heat Over Mad Cow Quip", *Calgary Herald* (17 September 2003) A1 & A8.

motivations, the Premier's free-market language didn't serve to restore confidence in Alberta beef when both domestic consumers and export markets were demanding increased oversight and regulation. The political optics of the Premier's remarks was inappropriate and probably served to make an already bad situation, worse. Notwithstanding, in this particular case, and to the industry's credit the animal was properly identified and tested for BSE.

Further market disruption occurred when it was confirmed that an infected cow later discovered in the State of Washington was originally born in Alberta.⁹ Opponents to the cattle and beef trade with Canada invoked the cow's "Canadian connection as a tool to slow and frustrate the normalization of live cattle trade across the Canada-United States border".¹⁰

Subsequent efforts to restore consumer confidence, including food safety assurances were immediately undertaken by industry groups and governments.¹¹ These specific measures included animal identification, traceability, and animal movement.¹² The idea of modern traceability in the context food production generally, is defined by the Canadian Food Inspection Agency (CFIA) as "...the ability to follow an item or a group of items – be it animal, plant, food product or ingredient – from one point in the supply chain to another, either backwards or forwards".¹³ Animal origin and identification play a central role in the traceability of beef products in the event of contamination by animal and other foodborne disease.

In light of these events this paper will discuss the role of regulation in modern agricultural production and the threat presented by animal disease, with specific reference to the threats presented to food safety by BSE. It will also examine and evaluate aspects of animal identification and traceability regulations implemented to control and prevent BSE, with particular emphasis on the regulatory framework in Alberta. Specific criteria for evaluation will include whether the framework reflects the "three pillars of traceability".¹⁴ The three pillars specifically include animal identification, premise identification and animal movement.¹⁵ It is also relevant to discuss whether producer participation is voluntary or mandatory.¹⁶ Additional evaluation criteria will include the distance or breadth of traceability and the depth of information recorded as a consequence of implementing traceability.¹⁷

This paper will also examine how the existing regulatory framework achieves meaningful traceability in Alberta and consequently whether it adequately secures the safety of beef products. This will include recent regulatory changes incorporating specific best practices and precautionary measures focused on BSE prevention. In addition, this paper will examine existing penalty frameworks and whether a monetary restitution or polluter pays approach to recover costs incidental to noncompliance is relevant. It is anticipated that this analysis will enable further

⁹ Loppacher, *supra* note 6 at 3.

¹⁰ *Ibid.*

¹¹ *Ibid* at 4.

¹² *Ibid.*

¹³ Canadian Food Inspection Agency, "Livestock identification and Traceability" online: <www.inspection.gc.ca/animals/terrestrial-animals/traceability>

¹⁴ See e.g. Jared E. Carlberg, "Development and Implementation of a Mandatory Animal Identification System: The Canadian Experience" (2010) 42:3 *J of Agric & Appl'd Econ* 559 at 564.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ G.C. Smith, et al., "Post-Slaughter Traceability", (2008) 80 *Meat Science* 66.

conclusions regarding consumer benefits derived from traceability as well as define what, if any, reforms to the existing legal framework are desirable.

Traceability frameworks generally are, like many other regulatory issues, addressed by countries individually rather than collectively. For this reason, “animal identification and their application varies widely between nations”.¹⁸ Accordingly, this paper will also examine the role of existing international standards and compare animal identification and traceability in Alberta to specific aspects of animal identification and traceability systems implemented in the US and EU. Before addressing these questions, it is probative to understand the role of regulation in modern agriculture in Canada in terms of securing the safety of agricultural food products.

2.0 REGULATION IN MODERN AGRICULTURE

Regulation is an imperative in most human and industrial activities. Regulation in agriculture is essential to both food sustainability and food safety. In recent years domestic consumer and export demand for traceability and product safety has invited increased industry regulation.

Agricultural production intrinsically promotes the production of healthy and nutritious food for human consumption.¹⁹ Regulation of agricultural production generally facilitates this. Schneider further observes that modern agricultural laws and regulation often have unique attributes that “promote an agricultural sector that produces healthy food in a sustainable manner”.²⁰ Schneider further emphasizes that regulation in agriculture is essential because “food is one of the most basic of human needs” and as such “provides a compelling justification for a legal system that nurtures and guides its agricultural sector”.²¹ In 1996, Benson reminded us that legislative and regulatory reform, often occur in reaction to crisis, rather than in an effort to prevent crisis from happening in the first place.²²

The isolated discovery of BSE in Alberta on May 20, 2003 served as the crisis to introduce animal disease and traceability policies and regulations subsequently implemented across Canada. The immediate objective, arguably, was to recover domestic and export beef markets and ultimately to provide assurances of safer food production and food products.

The World Health Organization (WHO) narrative closely resembles the crisis intervention analogy articulated by Benson:

A global scandal is often needed to stir the collective consciousness on food safety, such as the bovine spongiform encephalopathy crisis in the 1990s or the adulteration of milk with melamine in 2008, which hit some countries badly. The threat of food safety is then largely forgotten until the next emergency. It is high time for a sustainable response to the

¹⁸ Eric Pendergrass, “A Comparison of International Animal Identification Programs” (April 2007) National Agricultural Law Center, University of Arkansas, Working Paper at 1.

¹⁹ Schneider, *supra* note 1 at 947.

²⁰ *Ibid.*

²¹ *Ibid.*

²² Marjorie Benson, *Agricultural Law in Canada 1867-1995* (Calgary: Canadian Institute of Resources Law, 1996), at xiii.

core problems, which are a fragmentation of food safety authorities, unstable budgets, and a dearth of convincing evidence on the effect of foodborne diseases.²³

Given the demand for an appropriate response to food safety threats, the evolution of regulation in modern agriculture includes safeguards to identify, as well as to prevent future BSE discoveries and other disease contamination in the beef industry. These consist primarily of policies and regulations implemented to establish a framework for livestock identification and traceability, as well as livestock disease prevention. Pendergrass describes the motivation for livestock identification and traceability regulations globally in the following context:

Across the globe, countries with advanced livestock industries have implemented animal identification programs that allow for traceability of their commercial animal herds. Generally, nations adopted these programs to accommodate concerns relating to the safety of the food supply that stem from the outbreaks of BSE, commonly known as mad cow disease, in Great Britain, Canada, Japan and the United States. While many of these countries have not experienced cases of BSE within their own borders, the governments have decided to implement these programs to capture export opportunities and to restore faith in their domestic beef supply.²⁴

The federal Agricultural Policy Framework (APF) serves as a Canadian example of policy safeguards motivated exclusively to secure food safety in light of heightened consumer awareness and expectations citing "...recent high-profile events around the world, including outbreaks of mad cow disease in Europe, and concerns about bio-terrorism".²⁵ The proposed policy framework also serves to reassure consumers and provide a strategy to achieve a collective federal-provincial framework to enhance food traceability and increase product surveillance primarily because:

Outbreaks of diseases or pathogens within the food production and processing chain were once contained within small areas. Intensive farming and the increased movement of goods and people, however have made them much more difficult to contain. As a result, outbreaks – whether from natural causes or bio-terrorism – can spread throughout a country and around the world in a remarkably short time.²⁶

Before evaluating aspects of the existing animal identification and traceability regulatory framework in Alberta, it is helpful to gain an understanding of BSE both in terms of how it occurs in beef production and the threat presented to food safety and human health.

²³ World Health Organization, "Food Safety Must Accompany Food and Nutrition Security" 348 *The Lancet* (29 November 2014) online: [http://dx.doi.org/10.1016/S0140-6736\(14\)62037-7](http://dx.doi.org/10.1016/S0140-6736(14)62037-7)

²⁴ Pendergrass, *supra* note 16 at 1.

²⁵ Agriculture and Agri-Food Canada, "Putting Canada First: Food Safety and Food Quality" online: www.4.agri.gc.ca/resources/prod/doc/cb/apf/pdf/consult/1.02_e.pdf.

²⁶ *Ibid.*

3.0 BSE 101 AND FOOD SAFETY

It is believed that the first case of BSE in cattle was discovered in 1986 on a farm in England.²⁷ The presence of BSE on this single occasion resulted in the infection of 1,700,000 cattle, the culling of 4.4 million cattle and the death of 164 humans.²⁸ The disease later earned the notorious sobriquet “mad cow disease”.²⁹

The scientific community continues to believe that the initial infection resulted from the practice of feeding infected protein products and bone meal made from parts of contaminated cattle and livestock.³⁰ The disease has a long incubation period ranging from 30 months to eight years, with the infectious agent thought to be a specific type of protein, called a prion.³¹ Consequently the UK banned the use of rendered cattle parts and protein products in animal feeds in 1988 and thereby removed potentially contaminated material containing ruminant proteins from both the animal and human food chains.³² Fisher cautions that given the scientific uncertainties regarding the specific cause and transmission, BSE is possibly transmissible between species because “the weight of evidence points to its implication in a few human deaths already and the possibility of thousands in the future”.³³

It is agreed by scientists that BSE is always fatal in both cattle and humans.³⁴ BSE infects the brain tissue and spinal cord in cattle and there is no vaccine nor any known treatment or cure.³⁵ That said, the scientific consensus in Canada continues to emphasize that BSE presents “...an extremely low risk to human health”.³⁶ Other food-borne pathogens including salmonella potentially present a more serious threat to human health. For context, the Centres for Disease Control and Prevention estimates that 1.2 million illnesses and 450 deaths in the human population result from salmonella annually in the US.³⁷

Scientists attribute the specific origin of BSE in Canada to infected animals imported from the UK prior to 1990 and speculate that parts of the rendered animals infiltrated cattle feed resulting in further infection.³⁸ On recommendations of the WHO, the practice of allowing animal parts to

²⁷ Douglas J. Lanska, “The Mad Cow Problem in the UK: Risk Perceptions, Risk Management, and Health Policy Development” (1998) 19(2) *J of Public Health Policy* at 160.

²⁸ Belinda Cleeland, “The Bovine Spongiform Encephalopathy (BSE) Epidemic in the United Kingdom” (2009) International Risk Governance Council (IRGR) Report, at 3.

²⁹ *Ibid.*

³⁰ Canadian Food Inspection Agency, “CFIA Fact Sheet-BSE” online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/fact-sheet/eng>

³¹ Cleeland, *supra* note 28.

³² *Ibid* at 3.

³³ John R Fisher, “Cattle Plagues Past and Present: The Mystery of Mad Cow Disease” (1998) 32(2) *Journal of Contemporary History* 215 at 216.

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ *Supra* note 30.

³⁷ Centers for Disease Control and Prevention (CDC), “Foodborne Illness in the United States-Technical Information”, online: <www.cdc.gov/eid/article/17/1/pdfs-1101.pdf>

³⁸ Canadian Food Inspection Agency, “Overview of Canada’s BSE Safeguards”, online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/safeguards/...>

enter the food chain was subsequently prohibited by the introduction of pre-emptive feed bans.³⁹ This resulted in the dramatic reduction of BSE infectivity within the Canadian and US cattle herd.⁴⁰

There is no test in terms of diagnosing BSE in live cattle, however physical symptoms displayed by individual animals may support a presumptive diagnosis.⁴¹ A conclusive diagnosis is only possible after examining the animal's brain, *post-mortum*.⁴² In Canada, a conclusive diagnosis in suspected cases is confirmed by the Canadian Food Inspection Agency (CFIA).⁴³ Physical symptoms of BSE include cattle that are unable to, or have difficulty walking without assistance. These are commonly referred to as “downer cows”.⁴⁴

Specific animal identification and animal disease traceability regulations in Alberta, as well as mitigation and prevention measures implemented in Canada generally, will be discussed in the following chapters.

4.0 THE FEDERAL ANIMAL DISEASE FRAMEWORK

The federal regulatory framework in the case of animals and animal products is initiated following the discovery or the presence of an animal disease. The overall federal response to animal disease in Canada is provided for under the *Health of Animals Act* and associated regulations.⁴⁵ The preamble defines the statute as “an Act respecting diseases and toxic substances that may affect animals or that may be transmitted by animals to persons, and respecting the protection of animals”.⁴⁶

The motivation to design and improve animal traceability in Canada's beef industry is the subject of multiple federal and provincial policy documents. For example, as recent as 2012, Canada's federal, provincial and territorial agriculture ministers committed to a National Agriculture and Food Traceability System (NAFTS) described, in general, as a program designed to “...provide timely, accurate and relevant traceability information to enhance emergency management, market access, industry, competitiveness and consumer confidence”.⁴⁷ The NAFTS program is described by Agriculture and Agri-Food Canada as “essential to isolating animal health emergencies”.⁴⁸

Statutory authority to control and eradicate diseases or toxic substances in “animals or things” generally, and to establish and implement a national animal identification system is granted

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Supra note 30.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Andrea Repphun, “Pigs-In-A-Blanket: How Current Meat Inspection Regulations Wrap America In False Security” (2011) Drake J Agric L 183 at 186.

⁴⁵ See *Health of Animals Act*, SC 1990, c 21, online: www.law-lois.justice.gc.ca/eng/acts/h-3.3 [H of A Act].

⁴⁶ Ibid.

⁴⁷ Agriculture and Agri-Food Canada, “National Agriculture and Food Traceability System” (NAFTS) (26 January 2012) online: www.agr.gc.ca/eng/industry-markets-and-trade/traceability/fact-sheet/national-agric...

⁴⁸ Agriculture and Agri-Food Canada, “Traceability”, online: www.agric.gov.ab.ca/eng/industry-markets-and-trade/traceability/?id=>

under section 64(1) of the federal *Health of Animals Act*.⁴⁹ Pursuant to the Act, the Minister of Agriculture and Agri-Food may make regulations specifically with regard to:

...protecting human and animal health through the control or elimination of diseases and toxic substances and generally for carrying out the purposes and provisions of this Act, including regulations:

(y) establishing and governing a national identification system for animals that provides for standards and means of identification;

(z) requiring animals to be identified under the system established under paragraph (y) when the ownership or possession of them changes or when they are transported or otherwise dealt with;⁵⁰

The Canadian Food Inspection Agency (CFIA) was created in 1997 under the *Canadian Food Inspection Agency Act* and functions as the national regulatory authority.⁵¹ In 2013 ministerial oversight of the CFIA was transferred to Health Canada.⁵² The CFIA's mandate is clarified in the following Auditor General's Report:

...to enhance the effectiveness and efficiency of federal inspection and related services for food and animal and plant health.' Its mission is 'safe food, market access and consumer protection.' ...to contribute to a safe food supply and accurate product information, to contribute to the continuing health of animals and plants for the protection of the resource base and to facilitate trade in food, animals, plants and their products.⁵³

The cattle identification and cattle traceability framework in Canada is triggered by the discovery of a reportable disease or causative agent. In many respects this resembles the discovery of, or release of a substance that may have an adverse effect, and consequently a mandatory duty to report.⁵⁴ Thereafter the focus concerns rapid regulatory intervention. Intervention in the case of food production generally, provides for a suitable response consisting primarily of investigation and containment of the source, product recalls, reclamation and finally, penalties and related compliance measures.⁵⁵

Regulatory intervention also includes a determination of the cause and source of infection, containment in the form of quarantines, as well as establishing surveillance and control zones as

⁴⁹ H of A Act, supra at note 45 at s 2(1) & s 64(1).

⁵⁰ Ibid at s 64(1).

⁵¹ *Canadian Food Inspection Agency Act*, S C 1997, c 6, s 3, online: <www.law-lois.justice.gc.ca/eng/acts/c-16.5> [CFIA Act].

⁵² See e.g. Health Canada, "Canadian Food Inspection Agency Joins Health Portfolio", online: <www.hc.gc.ca/ahc-Asc/media/nr-cp/_2013-137bk-eng.php>

⁵³ Office of the Auditor General of Canada, "Canadian Food Inspection Agency-Food Inspection Programs" (December 2000) Chapter 25 at 8.

⁵⁴ See generally *Environmental Protection and Enhancement Act*, RSA 2000 c. E-12 at s 110-s 114, online: www.qp.alberta.ca/documents/acts/e12.pdf [EPEA].

⁵⁵ Ibid.

provided under provincial statutes and regulations.⁵⁶ In the case of animal disease, the CFIA in its role as the regulatory authority, coordinates the investigation and determines the appropriate response given the particular circumstances.⁵⁷ As such, the CFIA is specifically responsible for the administration, inspections and enforcement of the federal *Health of Animals Act* concerning animal disease.⁵⁸

Section 2 of the federal *Health of Animals Act* specifically defines “disease” in animals to be:

- (a) a reportable disease and any other disease that may affect an animal or that may be transmitted by an animal to a person, and
- (b) the causative agent of any such disease.⁵⁹

Diseases are further defined as “reportable” when prescribed by regulation or as reportable by the Minister.⁶⁰ Section 2 of the federal *Reportable Diseases Regulations* prescribes 51 specific reportable animal diseases including BSE.⁶¹

Section 5(1) of the Act further provides for an immediate duty to report or notify in the event of the discovery of any fact indicating the presence of a reportable disease or toxic substance:

A person who owns or has the possession, care or control of an animal shall notify the nearest veterinary inspector of the presence of a reportable disease or toxic substance, or any fact indicating its presence, in or around the animal, immediately after the person becomes aware of the presence or fact.⁶²

The application of these provisions is neither confined to animal owners nor to cattle. Specific reference is made to persons in possession and care or control of an animal. The provisions also apply to persons who are aware of, or aware of facts indicating the presence of a disease or toxic substance “in or around” an animal or that is “capable of affecting animals.”⁶³ In the case of BSE this includes a reasonable suspicion or presumption.⁶⁴ A veterinarian who “suspects that an animal is affected or contaminated by a reportable disease or toxic substance”, has a similar duty to report those findings to a veterinarian inspector in accordance with the Act.⁶⁵ Veterinary inspectors are designated as such by the CFIA pursuant to sections 32 and 33 of the federal *Health of Animals*

⁵⁶ See e.g. *Animal Health Act*, RSA 2007, c A-40.2, s 12, online: www.qp.alberta.ca/documents/Acts/A40p2.pdf [A H Act]

⁵⁷ CFIA Act, supra note 51 at s 11.

⁵⁸ Ibid.

⁵⁹ H of A Act, supra note 45 at s 2(1).

⁶⁰ Ibid.

⁶¹ *Reportable Diseases Regulations*, SOR/91-2, s 2 online: <www.laws-lois.justice.gc.ca/eng/regulations/SOR-91-2/page-2.html#h-3> [Reportable Diseases Regs]

⁶² Supra note 45 at s 5(1).

⁶³ Ibid at s 5 & s 7.

⁶⁴ Canadian Food Inspection Agency, “Overview of Canada’ BSE Safeguards”, online: <www.inspection.gc.ca/Animals/terrestrial-animals/diseases/reportable/bse/safeguards/...> .

⁶⁵ H of A Act, supra note 45 at s 5(2).

Act.⁶⁶ Inspectors are granted authority by the Minister to designate primary and secondary control zones and to identify “animals or things” capable of being infected or contaminated by the disease or toxic substance.⁶⁷

The Minister is also granted authority under the *Health of Animals Act* to make and implement regulations intended to control and eradicate animal disease and to manage the quarantine and disposal of animals “affected or contaminated” by any disease or toxic substance.⁶⁸ The federal regulations include a similar, but less precise definition of “disease” including:

...any reportable disease or other serious epizootic disease to which an animal or germplasm is susceptible and which can be transmitted by the animal or germplasm; (maladie).⁶⁹

A “communicable disease” is further defined in section 2 as “...an infectious or contagious disease; (maladie transmissible)”.⁷⁰ Section 3(1) of the regulations provides that where an animal is “affected or suspected of being infected with a communicable disease” has “been in contact with an animal so infected”, is “in an eradication area” or “was imported,” an inspector may order the person in possession or having care and control to segregate the animal in a suitable manner and place, for further inspection and testing.⁷¹ Under the provisions of sections 4-6, an inspector may inspect animals for a communicable disease or disease agent and order that an animal be quarantined or destroyed and that the carcass be disposed of as directed.⁷²

Every person, including corporate directors and agents, who contravenes “or refuses or neglects to perform any duty” specifically required by the Act is guilty of an offence punishable as either a summary conviction or an indictable offence.⁷³ It is not immediately clear what criteria would determine the election, in terms of whether summary or indictable. The language and burden of proof under the federal statute however, are both obligatory and consistent with the penal language of criminal law. Given the seriousness and potential harm caused by failing to comply, the language is arguably appropriate. A conviction under the Act can result in a minimum fine “not exceeding fifty thousand dollars” or to a maximum fine “not exceeding two hundred and fifty thousand dollars” or to imprisonment for a minimum term “not exceeding six months” and for a maximum term “not exceeding two years”.⁷⁴

Violations of the Act, including a violation or contravention of a specific statutory prohibition, or of a regulation made under the Act, or of an order made by the Minister, or refusal or neglect to perform any specified duty or class of duties imposed by or under the Act, are alternatively punishable by administrative monetary penalties imposed under provisions of the

⁶⁶ Ibid at s 32 & s 33.

⁶⁷ Ibid at s 22 & s 23.

⁶⁸ Ibid at s 64.

⁶⁹ *Health of Animals Regulations*, CRC c 296, s 2, online: <www.laws-lois.justice.gc.ca/eng/regulations/c.r.c._c.-296/> [H of A Regs].

⁷⁰ Ibid at s 2.

⁷¹ Ibid at s 3(1).

⁷² Ibid at s 4-s 6.

⁷³ H of A Act, *supra* note 45 at s 65(a) & s 65(b) & s 71.

⁷⁴ Ibid at s 65(1).

Agriculture and Agri-Food Administrative Monetary Penalties Regulations (AMPs).⁷⁵ The AMPs are described by Health Canada as “an alternative to the existing penal system and as a supplement to existing enforcement measures, a fair and efficient administrative monetary penalty system for the enforcement of the agri-food Acts”.⁷⁶ Penalties are imposed through “an administrative process which does not involve the courts, with no resulting criminal record or imprisonment”.⁷⁷

The AMPs specifically provide for a graduated penalty ranging from a “Notice of Violation Issued With Warning” to monetary penalties from \$500 to \$1300 depending upon whether the violation is classified as “minor”, “serious”, or “very serious”.⁷⁸ The range of monetary penalties provided can increase from between \$1,300 to \$10,000 depending both upon classification of the specific violation including “total gravity value”, and whether it is determined that the violation was committed “in the course of business or in order to obtain a financial benefit”.⁷⁹ Schedule 1 of the AMPs regulation defines specific “classifications” for each violation.⁸⁰ Monetary penalties are eligible to be reduced by one-half if payment is made within 15 days after the Notice of Violation is served.⁸¹ In the case of a Notice of Violation Issued With Warning or a specified penalty of \$2000 or more, a person accused may apply to the Canadian Agricultural Review Tribunal (CART) for a review of the facts giving rise to the violation or can apply to enter into a Compliance Agreement specifying corrective action that shall be undertaken to ensure future compliance.⁸²

Failing to notify regarding the “presence of a reportable disease or toxic substance” or “failing to present an animal or thing” are classified under the AMPs as “very serious” violations.⁸³ Monetary penalties may be reduced or increased to reflect “total gravity value” of the particular violation.⁸⁴ Specific mitigating and aggravating factors that may be considered in the case of violations that are classified as “serious” or “very serious” include the history of prior violations or offences, the degree of intention or negligence of the accused, and the harm done or that could result from the violation.⁸⁵ In the case of serious violations, resulting costs, including the cost of recalls and the harm done, are in most cases fully quantifiable and relevant to sentencing and penalties. These factors are likely also relevant in terms of the ultimate election in terms of proceeding as a summary conviction or indictable offence. The AMP framework is described by the CFIA as an “enforcement measure to encourage compliance with the *Health of Animals Act*, and associated regulations.”⁸⁶

⁷⁵ *Agriculture and Agri-Food Administrative Monetary Penalties Regulations*, SOR/2000-187, s 2, online: www.law.lois.justice.gc.ca/eng/regulations/sor-2000-187/index.html [AMPs].

⁷⁶ Health Canada, “Consumer Product Safety: Administrative Monetary Penalties” online: <www.hc.sc.gc.ca/cps-spc/legislation/acts-lois/pest/amp-sap-eng.php>

⁷⁷ Ibid.

⁷⁸ AMPs, supra note 75 at s 5.

⁷⁹ Ibid.

⁸⁰ Ibid at Schedule 1, Part 1, Division 1.

⁸¹ Ibid at s 10(2).

⁸² Ibid at s 11.

⁸³ Ibid at s 5.

⁸⁴ Ibid at s 6, Schedule 3, Part 1-Part 3.

⁸⁵ Ibid at s 6(a).

⁸⁶ Canadian Food Inspection Agency, “Administrative Monetary Penalties (AMPs)”, online: <www.inspection.gc.ca/About-the-cfia/accountability/compliance-and-enforcement/amps/eng>

In light of various Health Canada and CFIA policy statements it is not entirely clear whether the objective of fines and penalties under the AMPs and related statutes is to achieve full restitution for costs and for harm done.⁸⁷ Given the specified maximum penalties provided, efforts to recover costs including individual producer damages and losses suffered by the industry as a whole, are possibly better suited to civil remedies or alternatively, to 3rd party insurance claims where suitable animal sickness and disease coverage is in place.

Quarterly reports including the administrative monetary penalties imposed are published on the CFIA website.⁸⁸ The range of specified maximum penalties on paper appears to be significant and potentially severe. Application and enforcement of the penalty provisions contained in both the *Health of Animals Act* and the AMP regulation is somewhat lenient in practice. In recent years, fines imposed under the *Health of Animals Act* have generally ranged between \$1300.00 to \$6500.00.⁸⁹ The options provided to resolve alleged violations committed under the Act possibly serve to provide considerable discretion and flexibility to accommodate a negotiated penalty submission. The benefit of any conflict or ambiguity regarding the penalty provisions would likely be given to the accused.

The CFIA also has the regulatory authority to issue recall orders for specific products which are regulated under the Health of Animals Act, where it is believed on reasonable and probable grounds that the product “poses a risk to public, animal or plant health”.⁹⁰ Noncompliance with a recall order where notice was given, is a separate offence under the *Canadian Food Inspection Agency Act* and is subject to a fine “not exceeding \$50,000” and/or to imprisonment for a term “not exceeding six months”.⁹¹ In the case of a corporate wrongdoer, directors, officers and agents of the corporation are subject to prosecution and penalties under section 71 of the *Health of Animals Act*.⁹²

The federal regulations do not provide a national animal identification or traceability framework *per se*. The federal regulatory framework is significant to the extent that it defines animal disease(s), imposes a duty to notify or report, prescribes containment strategies, and provides for enforcement measures including penalties in the event of noncompliance. This has particular application to animals in transport and to animals at slaughter or those destined for export.

To achieve BSE prevention in both animals and humans the federal regulations also provide measures requiring the permanent removal of specific animal parts from the food chain overall. For reasons explained by the constitutional division of powers and shared jurisdiction generally, traceability frameworks in most cases have been developed and implemented by individual provinces. Accordingly these frameworks are confined in their application to producers

⁸⁷ See e.g. EPEA, supra note 54 at s 2(i).

⁸⁸ Supra note 86.

⁸⁹ Ibid.

⁹⁰ H of A Act, supra note 45 at s 19(1).

⁹¹ Ibid at s 19(2) & s 19(3).

⁹² Ibid at s 71.

and animals within the province. Recent provincial regulatory changes have seen considerable progress regarding the development of animal identification and traceability in Alberta.

5.0 THE ALBERTA TRACEABILITY FRAMEWORK

The provincial regulations in Alberta are primarily control measures directed at animal identification and disease management. The Alberta regulatory response to BSE, began in 1990 when BSE was first prescribed as a reportable disease and included in the “list of reportable diseases in cattle” under the *Reportable and Notifiable Diseases Regulation*.⁹³ In Alberta the discovery of an animal disease or toxic substance can be classified as either “reportable” or “notifiable”.⁹⁴

Reportable diseases in animals generally include animal diseases and toxic substances that threaten animal or human health.⁹⁵ Animal diseases that are infectious as well as transmissible and present a threat to human or public health are often described as “zoonoses”.⁹⁶ Carlberg characterizes Alberta’s animal disease, animal identification and traceability regulations in general as exemplary in that the recent improvements go “beyond the requirements of the federal system”.⁹⁷

The provincial *Animal Health Act* came into effect in January, 2009 and specifically defines reportable and notifiable diseases in animals. A “reportable disease” in Alberta is defined in section 3 of the Act to include an animal disease that:

- (a) is prescribed as a reportable disease in the regulations,
- (b) in the opinion of the chief provincial veterinarian requires the implementation of control measures or eradication measures to minimize the risk of the disease spreading because the disease
 - i. may cause products derived from a diseased animal to be unsafe or unfit for use or consumption,
 - ii. may be a threat to animal health, public health or the health of other living organisms,
 - iii. may be a threat to the economic interests of the animal industry,
 - iv. may be transmitted between animals and humans, or
- (c) requires any action to be taken for any purpose prescribed in the regulations.⁹⁸

BSE is specifically classified as a reportable disease in “Schedule 1” of section 2 of the *Alberta Reportable And Notifiable Diseases Regulation* and includes “the condition of carrying a disease

⁹³ *Reportable and Notifiable Diseases Regulation*, Alta Reg 129/2014 at s 2, schedule 1, online: <www.qp.alberta.ca/documents/Regs/2014_129.pdf> [Reportable Regs].

⁹⁴ A H Act, supra note 56 at s 3 and s 4.

⁹⁵ See e.g. Fred Hays “Traceability Costs for Alberta’s Cow-Calf Sector” (Alberta Beef Producers) Working Paper at 4, online: <www.albertabeef.org/page/policy-regulations>

⁹⁶ Ibid.

⁹⁷ Carlberg, supra note 95 at 5.

⁹⁸ A H Act, supra note 56 at s 3.

causing agent that causes those diseases” in both domestic and domesticated animals in captivity.⁹⁹ There are 32 “reportable diseases” listed in Schedule 1 and 40 “notifiable diseases” listed in Schedule 2.¹⁰⁰ With specific reference to reportable diseases in cattle, Schedule 1 includes “salmonella”, “foot-and-mouth disease” and “other disease caused by a toxic substance that presents a threat to animal health or human health”.¹⁰¹ E. coli bacteria is specifically excluded from both the reportable and notifiable lists.¹⁰² This is likely because e. coli is not known to originate on the farm, but rather is a product of the slaughter or storage and as such is often detected during the post-slaughter meat inspection process.¹⁰³ A discovery of e.coli is arguably reportable under the Regulation being that it is a “disease caused by any toxic substance that is a threat to animal health or human health”.¹⁰⁴ Reports of both confirmed reportable and notifiable diseases in Alberta are updated quarterly and shared online via the provincial Agriculture and Rural Development website.¹⁰⁵ One confirmed case of BSE in a 70 month old beef cow was reported and diagnosed in 2015.¹⁰⁶

A “person who knows or ought to know” of the presence of a reportable disease has an immediate duty to report pursuant to section 3 of the Regulation:

An owner of an animal or authorized person who knows or ought to know that a reportable disease is or may be present in an animal must, within 24 hours report it to the chief veterinarian in person or by telephone.¹⁰⁷

The duty to report a presumptive diagnosis of BSE is provided in section 4 of the Regulation.¹⁰⁸ Once details are shared with the chief veterinarian, the *Animal Health Act* provides specific measures to control, contain and eradicate threats to animal health, public health, food safety, and economic interests through animal identification and quarantine.¹⁰⁹

Failing to report the presence of a reportable or notifiable disease by an animal owner constitutes an offence under section 67 of the *Animal Health Act* and is punishable under section 68 of the Act to a fine of “not more than \$15,000” for a first offence and \$1000 per day in the case of a continuing offence and to an additional fine of “not more than \$30,000” and \$2000 per day in the case of a second or subsequent offence.¹¹⁰

In the case of a dead animal that is “known or suspected to have had a disease that is reportable” as specifically defined under either the provincial or federal Act the animal owner is

⁹⁹ Reportable Regs, supra note 93 at s 2.

¹⁰⁰ Ibid at Schedule 1 and Schedule 2.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ See e.g. Canada Beef Inc., “Food Safety Systems at the Meat Plant”, online: <www.canadabeef.ca/us/en/safety/Meatplant/default.aspx>

¹⁰⁴ Reportable Regs, supra note 93 at s 2 schedule 1.

¹⁰⁵ See Alberta Agriculture and Rural Development, “Confirmed Reportable and Notifiable Diseases in Alberta”, online: <[www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/cpv14771](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/cpv14771)>

¹⁰⁶ Ibid.

¹⁰⁷ Reportable Regs, supra note 93 at s 3.

¹⁰⁸ Ibid at s 4.

¹⁰⁹ AH Act, supra note 56 at s 12.

¹¹⁰ Ibid at s 67 & s 68.

required under section 6 of the *Disposal of Dead Animals Regulation* to dispose of the animal by a means provided for in the regulation, or as further directed by the chief provincial veterinarian or veterinary inspector.¹¹¹ Failure to comply with the provisions of the Regulation is an offence punishable by fines under section 22 of the Regulation.¹¹² The range of fines provided in section 22 of the Regulation is identical to those provided in section 68 of the *Animal Health Act*.¹¹³

When believed on “reasonable and probable grounds” by the chief provincial veterinarian that an animal is infected with a reportable disease, or has come into contact with a reportable disease, a quarantine order may be issued and served in accordance with section 13 of the *Animal Health Act*.¹¹⁴ Once in place, a quarantine order will enable management and control measures to be undertaken.

Investigating the discovery of a reportable disease and tracing the suspected animal, as well as its cohorts is specifically facilitated by the three “pillars of traceability”.¹¹⁵ The pillars include animal identification, premise identification and animal movement.¹¹⁶ Together they enable individual animal identification and monitor animal movement at any given time, and from one location or herd of origin to another.¹¹⁷ The regulatory framework for each of the pillars of traceability and how each is achieved in Alberta will be described in the chapters that follow.

5.1 ANIMAL IDENTIFICATION

The first pillar of traceability in beef production is animal identification. Individual animal identification has played an important historical role in the health and viability of Canada’s cattle industry. This was especially true of traditional hot-iron branding used primarily to identify property and ownership of an animal, as well as during the last century, to enable eradication of diseases in cattle such as tuberculosis and brucellosis.¹¹⁸

Animal identification is described by Souza-Monteiro et al. as “the base for traceability systems in the beef supply chain”.¹¹⁹ In 2009, Alberta introduced mandatory animal identification under the *Traceability Cattle Identification Regulation*, specifically provided for under section 63(2)(b) of the provincial *Animal Health Act*.¹²⁰ The Regulation applies to “all cattle born in

¹¹¹ *Disposal of Dead Animals Regulation*, Alta Reg 132/2014, s 6, online: <www.qp.alberta.ca/documents/Regs/2014_132.pdf> [Dead Animals Regs]

¹¹² Ibid at s 21 & s 22.

¹¹³ A H Act, supra note 56 at s 68.

¹¹⁴ Ibid at s 13.

¹¹⁵ See also Canadian Cattle Identification Agency, “CCIA & Three Pillars of Traceability”, online: <international.livestockid.com/files/session-05-Eddlestone.pdf>

¹¹⁶ Ibid.

¹¹⁷ See e.g. Alberta Agriculture and Rural Development, “Traceability In Alberta”, online: <[www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/trace14202](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/trace14202)>

¹¹⁸ K. Stanford, et al, “Traceability in Cattle and Small Ruminants in Canada”, (2001) 20(2) Rev Sci Tech 510 at 511.

¹¹⁹ Diogo M. Souza-Monteiro and Julie A. Caswell, “The Economics of Implementing Traceability in Beef Supply Chains: Trends in Major Producing and Trading Countries” (2004) University of Massachusetts Amherst, Department of Resource Economics, Working Paper at 3.

¹²⁰ See *Traceability Cattle Identification Regulation*, Alta Reg 333/2009, online: <www.qp.alberta.ca/documents/Acts/L162.pdf> [Cattle ID Reg].

Alberta on or after January 1, 2009, and all cattle that enter a feedlot, regardless of age or origin.”¹²¹ Compliance with the Regulation makes individual animal age verification a necessary and essential part of the animal identification framework in the cattle industry.

The federal *Health of Animals Regulations* and provincial *Traceability Cattle Identification Regulation* requires individual animal identification by mandating the use of approved ear tags from the herd of origin to the time of death or slaughter.¹²² The date of death or slaughter of an individual animal and the number of the approved tag must be reported within 30 days after the death.¹²³ Before a live animal is exported from Canada it must undergo inspection by an accredited veterinarian and certified that it is free of any communicable disease and is in compliance with importation requirements of the country of destination.¹²⁴

Use of electronic radio frequency technology enables animal identification and animal traceability from the herd of origin to the feedlot and beyond the feedlot, to slaughter and export.¹²⁵ Radio Frequency Identification (RFID) ear tags are not battery powered but instead are activated when connected with the transmission field of a reader. Once activated, a tag returns its unique identification number to the reader.¹²⁶ Hays quantifies the average aggregate producer-cost associated with traceability in Alberta, including the cost of initial tagging and retagging of both calves and cows, to be \$6.64 per head.¹²⁷ Additional costs borne by producers include costs of administration, animal handling, labor, and computer technology acquisition.¹²⁸

The Canadian Cattle Identification Agency (CCIA) was created in 2001 under the federal *Health of Animals Regulations* to act as the “responsible administrator” of animal identification and animal movement.¹²⁹ The Agency is specifically designated by the Minister to oversee the implementation of technologies and services supporting Canada’s Cattle Identification Program including the animal identification and movement reporting database.¹³⁰ The CCIA issues the approved ear tags and records individual animal death and slaughter.¹³¹ The role of the CCIA is described as “vital to trace backs conducted to investigate reportable diseases and other conditions”.¹³² In many ways it functions as a national data bank for maintaining individual animal identification records. Due to strong industry support and producer participation, the CCIA is described as “a global leader in animal identification”.¹³³

¹²¹ Ibid s 2.

¹²² H of A Regs, supra note 69 at s 173 & s 184.

¹²³ Ibid at s 186(1)(b).

¹²⁴ Ibid at s 69.

¹²⁵ Ibid at s 173.

¹²⁶ Supra note 14 at 9.

¹²⁷ Ibid at 2.

¹²⁸ Supra note 95.

¹²⁹ See e.g. Canadian Food Inspection Agency, “List of Responsible Administrators”, online: <www.inspection.gc.ca/animals/terrestrial-animals/traceability/administrators/eng/>

¹³⁰ H of A Regs, supra note 69 at s 172(1).

¹³¹ Ibid at s 184-s 186.

¹³² See e.g. The Canadian Cattle Identification Agency, “The Canadian Cattle Identification System” online: <www.Canadabeef.ca/ordercentre_files/public/151747-en.pdf>

¹³³ Ibid.

The regulation imposes a duty on the animal owner to tag each animal with an approved tag within 10 months of birth, “or before leaving the farm of origin, whichever occurs first”.¹³⁴ Together these provisions impose a duty on the owner to age verify calves within 10 months of birth or before leaving the farm of origin. On-farm records must thereafter be kept by the owner which include birth (or calving start date), and cattle identifier or approved tag number to identify each calf.¹³⁵ Owners are required to report details of farm records together with the premise identification (PID) to the Minister or responsible administrator (CCIA) within 10 months.¹³⁶ The reporting requirement for feedlots specifically provides that “within 7 days of the date each head of cattle moves into the feedlot” the feedlot owner “must identify each head of cattle by recording and reporting” both the PID number for the feedlot as well as the approved tag number and move-in date for each head.¹³⁷ Any “person who owns, possesses or has the care or control of a head of cattle that does not bear an approved tag or has lost its approved tag” must obtain a replacement tag in accordance with the federal *Health of Animals Regulations* and create records including the date of the new tag and the new tag number or the previous tag number if available.¹³⁸ This information must be reported to the Minister and to the CCIA or Canadian Livestock Tracking System (CLTS) within 30 days of applying the new tag or before each head leaves the premises.¹³⁹ In the case of a feedlot this must be done within 7 days of applying the new tag or before leaving the feedlot.¹⁴⁰

Accurate record keeping by producers including birth dates, identification of individual animals and the legal description of premise or farm of origin is the primary focus of the *Traceability Cattle Identification Regulation*.¹⁴¹ Section 13 of the regulation provides that persons who “create false records or provide false information” to the Minister or to the Canadian Livestock Tracking System CLTS (also referred to as CCIA) are guilty of an offence.¹⁴² Monetary penalties are specified in section 68(1) of the *Animal Health Act* and range from a fine of “not more than \$15,000” for a first offence and “\$1000 for each day or part of a day during which the offence continues”, and for a fine of “not more than \$30,000” for a second or subsequent offence and “\$2000 for each day” or to both fines and to imprisonment “for a term not exceeding one year”.¹⁴³ In the event of a conviction under the Act “without limiting any other liability” under the Act “or any other law” the court may also issue an order for compliance respecting the specific contravention.¹⁴⁴ Orders made under section 68.1 presumably could also take the form of a “consent order”, the terms of which might be the product of a sentencing agreement negotiated by the parties directly involved.

Alleged violations under the provincial *Animal Health Act* and related regulations are prosecuted as strict liability, rather than either criminal or absolute liability offences.¹⁴⁵ As in the

¹³⁴ Cattle ID Reg, supra note 120 at s 4.

¹³⁵ Ibid at s 7.

¹³⁶ Ibid.

¹³⁷ Ibid at s 8.

¹³⁸ Ibid at s 6.

¹³⁹ Ibid at s 9.

¹⁴⁰ Ibid.

¹⁴¹ Ibid at s 6.

¹⁴² Ibid at s 13.

¹⁴³ AH Act, supra note 56 at s 68(1).

¹⁴⁴ Ibid at s 68.1.

¹⁴⁵ See *R. v Sault Ste. Marie* [1978] 2 SCR 1299 at 1311.

case of other commercial or business-related regulatory offences this reduces the burden of proof and provides for a defence of due diligence.¹⁴⁶ For example, where the accused can show on a balance of probabilities that he/she has “exercised care and skill” and in doing so has taken every reasonable measure to comply and to prevent the offence from occurring, a conviction is unlikely to result.¹⁴⁷

Overall compliance with animal identification measures by Canadian producers is estimated to be as high as 95%.¹⁴⁸ It is believed that the CCIA database was instrumental in identifying offspring of the infected cow after the first Canadian discovery of BSE.¹⁴⁹ Lawrence et al. point out that although animal identification did not prevent the infection or protect the Canadian cattle herd, “...it did help speed and lend confidence to the investigation”.¹⁵⁰ However, Souza-Monteiro et al. add that 1000 of the 2700 cattle culled as a result of the discovery, could have been spared if more information was recorded in the animal identification process.¹⁵¹ The total number of cattle culled on this occasion likely included entire herds that were quarantined as well as offspring and other cohorts exposed to infection.

5.2 PREMISE IDENTIFICATION

The second pillar of traceability in the cattle industry is referred to as premise identification. Mandatory premise identification (PID) became law in Alberta in 2009 under the *Traceability Premises Identification Regulation* and was subsequently amended in 2014.¹⁵² The *Premises Identification Regulation* applies to “animals in captivity” including “beef cattle” and “bees”.¹⁵³ There is no reference in the regulation to household pets.

The Regulation specifically requires an owner of beef cattle “kept at a premises, other than a comingling site” to obtain a premises identification account and a premise identification (PID) from the Minister of Agriculture and Rural Development “within 30 days of assuming ownership of the animal”.¹⁵⁴ A PID account and PID number creates a record which includes specific details of ownership, including owner contact information, relationship of the applicant to the registered owner of the premises, exact location including the legal description or address of the premises, type of operation, the species of animals present, and the estimated maximum capacity for each species.¹⁵⁵ A comingling site includes abattoirs, feedlots, community pastures, stables and veterinary clinics and other common sites.¹⁵⁶ An operator of a comingling site is also required to obtain a PID account and account number within 30 days of assuming ownership or operation

¹⁴⁶ Ibid, see also EPEA, supra note 53 at s 229, and H of A Act supra note 46 at s 72.

¹⁴⁷ EPEA, supra note 54 at s 229.

¹⁴⁸ Souza-Monteiro, supra note 119 at 18.

¹⁴⁹ Ibid at 35.

¹⁵⁰ John D. Lawrence et al., “Lessons Learned from the Canadian Cattle Industry: National Animal Identification and The Mad Cow”, (2003) Midwest Agribusiness Trade Research and Information Center, (Research Paper 03-MRP 7) Iowa State University, at 1.

¹⁵¹ Souza-Monteiro, supra note 119 at 19.

¹⁵² See *Premise Identification Regulation*, Alta Reg 200/2008, online: www.qp.alberta.ca/Regs/2008_200.pdf [Premise ID Reg].

¹⁵³ Ibid at s 1(a).

¹⁵⁴ Ibid, s 1(a)(iii) & s 2(1).

¹⁵⁵ Ibid, s 4 & s 5.

¹⁵⁶ Ibid, s 3(2).

of the commingling site.¹⁵⁷ PID accounts in any case are not transferable.¹⁵⁸ However a commingling site operator must share the site PID with owners of animals kept on the premises.¹⁵⁹ Changes to a PID account and the account number such as changes regarding species and type of operation must be reported to the Minister within 30 days after the change.¹⁶⁰ Section 7 of the regulation provides that any person who fails to comply with any provision of the regulation is guilty of an offence.¹⁶¹ The range of monetary penalties are, once again, provided in section 68(1) of the Animal Health Act.¹⁶²

5.3 ANIMAL MOVEMENT

The third pillar of traceability in beef production is animal movement. In Alberta mandatory record keeping of animal movement came into force in Alberta in 2009 by virtue of the *Livestock Identification and Commerce General Regulation*, adopted under provisions of the *Livestock Identification and Commerce Act*.¹⁶³ The Act and Regulations adopted under the Act are the product of joint cattle industry and government efforts motivated to facilitate livestock commerce and to “operate in a more transparent, harmonized and consistent manner”.¹⁶⁴

Together the Act and Regulations address the need to record movement and transportation of cattle within the province by imposing requirements for sales documentation and records for cattle transactions, permits and livestock manifests in order to engage in the transportation and trade of cattle and beef products beyond provincial boundaries.¹⁶⁵ The Act also provides that inspectors acting on “reasonable and probable grounds” may conduct inspections regarding issues of compliance and may enter “any place, other than a dwelling place,” as well as search vehicles without a warrant to determine ownership, and to enable seizure and detention of livestock for purposes under the Act.¹⁶⁶ Notable offences under the *Livestock Identification and Commerce Act* include: applying an unregistered brand to livestock, tampering with or falsifying livestock brands and providing false or misleading ownership information to an inspector.¹⁶⁷ Penalties under the Act range from fines “not more than \$5000 for a first offence” and to “not more than \$10,000 for a 2nd or subsequent offence”.¹⁶⁸

Traceability systems generally provide a framework to rapidly locate and manage disease in animals. Traceability systems do not however, directly address issues regarding prevention of animal disease. The absence of scientific consensus regarding the cause or causes of BSE as well

¹⁵⁷ Ibid, s 3(3).

¹⁵⁸ Ibid, s 3(3).

¹⁵⁹ Ibid, s 2 (3).

¹⁶⁰ Ibid, s 6.

¹⁶¹ Ibid, s 7.

¹⁶² A H Act, supra note 56 at s 68(1).

¹⁶³ See *Livestock Identification and Commerce General Regulation*, Alta Reg 208/2008, online: www.qp.alberta.ca/documents/Regs/2008_208.pdf [Livestock Commerce Reg].

¹⁶⁴ Livestock Identification Services Ltd. “Livestock Identification and Commerce Act INFO Sheet #1-Overview”, online: www.albertabeef.org/uploads/LICAoverview-128.pdf

¹⁶⁵ Ibid.

¹⁶⁶ *Livestock Identification and Commerce Act*, SA 2006, c L-16.2 s 38-42, online: <www.qp.alberta.ca/documents/Acts/L16P2.pdf> [Livestock ID Act].

¹⁶⁷ Ibid at s 11(1) and s 44.

¹⁶⁸ Ibid at s 11(2) and s 45.

treatment of BSE infected cattle, has inspired both industry and government to implement reasonable BSE prevention safeguards and enhanced precautionary regulations to address prevention.

6.0 REASONABLE SAFEGUARDS FOR BSE PREVENTION

Specific prevention measures undertaken include 1) specified risk material (SRM) removal regulations, 2) the enhanced feed ban (EFB) regulations, and 3) the BSE enhanced surveillance protocol. These regulations and protocols in many ways exemplify “best practices” and have been implemented to supplement a healthy livestock industry and to bolster food safety. Similar measures were adopted in the UK in 1988.¹⁶⁹ When considered in combination with animal identification and traceability it is predicted that the risk of future BSE discoveries will be significantly reduced.¹⁷⁰ Together, these measures serve as examples of the precautionary principle and are often described as “Canada’s BSE safeguards”.¹⁷¹ Application of the precautionary principle gives new meaning to Benjamin Franklin’s famous words “an ounce of prevention is worth a pound of cure”.¹⁷² In the specific context of BSE and animal disease prevention, the BSE safeguards are precautionary, to the extent that they establish “aggressive goals to prevent, eliminate and reduce hazards, and to develop prevention-based tools such as bans and phase-outs, clean production/pollution prevention and alternatives assessment.”¹⁷³ The following sections will provide further discussion of the BSE safeguards and how each is implemented.

6.1 SPECIFIED RISK MATERIAL (“SRM”) REMOVAL

The first BSE safeguard implemented by federal regulation mandated removal of specified risk material (SRM). As part of a deliberate precautionary measure to mitigate and prevent the risk of BSE from spreading between cattle herds, animal proteins and other “prohibited material” were banned from cattle feeds in 1997 by virtue of the “pre-emptive feed ban”.¹⁷⁴ The federal *Health of Animals Regulation* was further amended in 2003 to prohibit “specified risk materials” (SRM) in cattle 30 months and older from entering the human food chain.¹⁷⁵ This measure is described as “the single most important step that could be taken immediately following BSE detection to protect public health”.¹⁷⁶ It is also recognized internationally as the most efficient way to prevent BSE contamination in the first place.¹⁷⁷ SRM is specifically defined in section 6.1 of the federal *Health of Animals Regulations* to include the following organs in cattle:

¹⁶⁹ Cleeland, *supra* note 28.

¹⁷⁰ *Supra* at note 38.

¹⁷¹ See e.g. Canadian Food Inspection Agency, “Overview of Canada’s BSE Safeguards” online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/safeguards/...>

¹⁷² See e.g. “The Quotable Franklin”, online: www.ushistory.org/franklin/quotable/

¹⁷³ Theresa McClenaghan and Hugh Benevides, “A Canadian Perspective on the Precautionary Approach/Principle” Canadian Environmental Law Association, (2002) 27 *Intervenor*, #1-2.

¹⁷⁴ Canadian Food Inspection Agency “About Canada’s Enhanced Feed Ban” online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/enhanced-fe...>

¹⁷⁵ H of A Regs, *supra* note 73 at s 6.2.

¹⁷⁶ *Supra* note 174.

¹⁷⁷ Canadian Food Inspection Agency, “Questions and Answers-Bovine Spongiform Encephalopathy (BSE) in Alberta”, online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/questions-an...>

...the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal ganglia of cattle 30 months or older, and the distal ileum of cattle of all ages....¹⁷⁸

SRM consists generally of nerve and brain tissues, and a portion of the small intestine.¹⁷⁹ These are commonly referred to as “the tissues where BSE tends to congregate”.¹⁸⁰ Regardless of age, carcasses of condemned cattle containing SRM and materials potentially contaminated or mixed with SRM must be treated as SRM.¹⁸¹ Removal of SRM from all cattle slaughtered for human consumption ensures that in the event that a BSE infected animal is slaughtered and consequently enters the food chain, the meat products do not contain those animal parts and tissues known to contain BSE.¹⁸² After removal the SRM is to be conspicuously stained and dyed in accordance with the regulation either by the person who removed the materials or by the person who has possession, care or control of the carcasses.¹⁸³ SRM and carcasses considered to be SRM must be sequestered and destroyed on the premises, and they may only leave the premises of origin, if they are submitted to a containment laboratory for suitable testing.¹⁸⁴

Once again, fines and penalties for failure to comply with the regulation depend upon the specific violation and classification of the violation under the federal AMPs.¹⁸⁵ For example failure to ensure the removal of SRM from slaughtered cattle in accordance with section 6.2 of the *Health of Animals Regulations*, or the use or export of SRM for human consumption in violation of section 6.3 is characterized as a “very serious” offence and punishable as provided under Division 2 of Schedule 1 under the *Health of Animals Regulations*.¹⁸⁶

6.2 ENHANCED FEED BAN (“EFB”)

The second safeguard implemented under federal regulation is referred to as the enhanced feed ban (EFB). Scientists believe that the transmission of BSE in cattle was exacerbated by the practice of feeding infected rendered materials or SRM including bone meal and organ tissue removed from slaughtered cattle to live cattle.¹⁸⁷ Given that it is also believed that the protein that is linked to BSE is resistant to heat, it is likely not destroyed in the rendering and commercial feed production process and for that reason could remain active and transmissible in rendered materials used in cattle feed.¹⁸⁸

¹⁷⁸ H of A Regs, supra note 69 at s 6.1.

¹⁷⁹ Supra note 174.

¹⁸⁰ Larry Wong, Edmonton Journal, “BSE Infected Cow Died On Spruce Grove-Area Farm” (11 March 2015) online: www.edmontonjournal.com/infected+died+Spruce+Grove+area+farm+Canadian

¹⁸¹ Canadian Food Inspection Agency, “Specified Risk Material-Requirements for Slaughtering Cattle and Processing Beef” online: <www.inspection.gc.ca/animals/terrestrial-animals-diseases/reportable/bse/srm/abattoirs-meat-processors/slaughtering-and-processing/eng/13690082828>

¹⁸² Ibid.

¹⁸³ H of A Regs, supra note 69 at s 6.22.

¹⁸⁴ Ibid s 6.21(2).

¹⁸⁵ AMPs, supra note 75 at Schedule 1, Part 1, Division 2.

¹⁸⁶ Ibid.

¹⁸⁷ Canadian Food Inspection Agency, “RG-5 Regulatory Guidance: The Enhanced Feed Ban Statement, Lot Numbers and Record Retention for Animal Food, Labels and Documentation” online: <www.inspection.gc.ca/animals/feeds/regulatory-guidance/rg-5/eng/>

¹⁸⁸ Canadian Food Inspection Agency, “Fact Sheet-Bovine Spongiform Encephalopathy (BSE)” online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/fact-sheet>

The enhanced feed ban was fully implemented in Canada in 2007.¹⁸⁹ Section 162(1) of the Health of Animals Regulations specifically regulates food for ruminants and defines “prohibited material” in livestock feed to include “...anything that is, or that contains any, protein that originated from a mammal...”¹⁹⁰ Section 162(2) of the Regulations specifically excludes “prohibited material that has been treated in a manner approved by the Minister to inactivate the agents that cause transmissible spongiform encephalopathies.”¹⁹¹ Given the prevailing consensus that the infective agents believed to cause BSE and related conditions are resistant to heat, it is challenging to imagine how SRM can be either treated or inactivated and not considered to be prohibited material.¹⁹² Section 164 of the Regulations provides that “no person shall feed prohibited material to a ruminant.”¹⁹³ Feeding prohibited material to a ruminant is classified in Division 2 of Schedule 1, as a “very serious” violation under section 5 of the AMPs.¹⁹⁴

The federal government’s 2012 “program overview” regarding the enhanced feed ban is published on the CFIA website and articulates justification for the regulation to continue in force:

The EFB addressed the prevention of opportunities for cross-contamination or cross-feeding of ruminants with prohibited proteins. To provide further animal health protection, SRM was also banned from animal feeds, pet foods, and fertilizers. The main objective of the EFB was to accelerate Canada’s progress in BSE management by preventing more than 99% of potential infectivity from entering the feed system and by enhancing risk management of transmission of BSE in the cattle herd. These efforts and many other BSE-related initiatives contributed to Canada obtaining the World Organisation for Animal Health (OIE) classification of a “controlled BSE risk” country.¹⁹⁵

In terms of evaluating overall performance of the EFB, the CFIA article also observes that it may be premature to fully evaluate the effectiveness of EFB measures:

...to assess the achievement of long-term outcomes related to EFB (i.e. its effectiveness), due to the long incubation period; that is, the time from an animal becoming infected until it first shows symptoms of the disease.¹⁹⁶

The third and final precautionary measure is referred to as the enhanced cattle herd surveillance protocol.

6.3 BSE ENHANCED SURVEILLANCE PROTOCOL

The third and final safeguard implemented in Canada is described as the enhanced surveillance protocol. Sometimes specifically referred to as “the final safeguard”, the CFIA website articulates

¹⁸⁹ Canadian Food Inspection Agency, “2012 Review of the Enhanced Feed Ban”, online: <www.inspection.gc.ca/Animals/terrestrial-animals/diseases/reportable/bse/srm/2012-review/eng/1395765714996/1395766363717>

¹⁹⁰ H of A Regs, supra note 69 at s 162(1).

¹⁹¹ Ibid at s 162(2).

¹⁹² See e.g. Centres for Disease Control and Prevention, “Guideline for Disinfection and Sterilization in Healthcare”, online: www.cdc.gov/hicpac/pdf/guidelines/disinfection_Nov_2008.pdf

¹⁹³ H of A Regs, supra note 69 at s 164.

¹⁹⁴ AMPs, supra note 75 at Schedule 1, Part 1, Division 2.

¹⁹⁵ Supra note at 189.

¹⁹⁶ Ibid.

the following justification for cattle surveillance in terms of providing oversight and enforcement of the feed ban:

Given the nature of Canada's feed ban, which does not lend itself to permit definitive testing with currently available methodologies, surveillance becomes the only tool available to confirm that Canada has an effective feed ban. For this reason, maintaining an adequate surveillance program is crucial and is why the federal government and other stakeholders have invested heavily in surveillance within the last two decades. However, relying on surveillance to confirm that Canada has an effective feed ban leads to a time lag, which is a direct result of the length of time from when an animal is exposed and becomes infected with BSE, to when it can be detected using currently available tests. On average, this takes about five to six years. As a result, monitoring the cattle population for BSE, at a level of sufficient intensity to gather the evidence required, is a long-term commitment.¹⁹⁷

In terms of OIE controlled risk performance, the CFIA document further observes:

To address a recent downward trend in the number of cattle tested, the federal government and various stakeholders have put in place an integrated and collaborative surveillance approach through various collaborative forums. Over the next couple of years and considering current trading partners, Canada could be one of the few in the top 10 beef exporting countries that remain in the OIE 'controlled risk' category for BSE.¹⁹⁸

The words "integrated and collaborative surveillance approach" possibly contemplates the joint role played by industry and both levels of government to help achieve improved BSE screening and prevention, as well as to demonstrate the safety of Canadian beef products to global export markets.

Another example of both integrated and collaborative surveillance is the Canada-Alberta BSE Surveillance Program ("CABSESP"). The CABSESP is a joint federal and provincial surveillance program and has recently been enhanced to provide for increased BSE testing and surveillance on high-risk cattle populations.¹⁹⁹ Although the minimum age to test eligible cattle for BSE remains 30 months, as a precaution under the new program all cattle from 30 months to 107 months of age are now eligible for sampling and BSE testing.²⁰⁰ The changes are consistent with observations made by Cleeland and others respecting BSE's long incubation period of 30 months to 8 years.²⁰¹ The program now includes cattle that were weaned from a cow subsequent to the 2003 discovery and are consequently considered at high risk to BSE infection. Eligibility under the surveillance program mandates animal age verification which in turn requires producers to maintain and produce detailed farm records, tags, or tattoos that confirm date of birth or date of

¹⁹⁷ Supra note 171.

¹⁹⁸ Ibid.

¹⁹⁹ Alberta Agriculture and Forestry, "Overview of the Canada & Alberta BSE Surveillance Program", online: <[www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/cpv9336](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cpv9336)>

²⁰⁰ Ibid.

²⁰¹ Cleeland, supra note 28 at 1.

purchase.²⁰² Absent adequate records, dentition (animal oral and dental examinations) can be used as a reliable means of age verification to determine potential eligibility.²⁰³

The change to CABSESP regarding animal age and testing is also significant in terms of cost, given that producers currently receive \$75.00 per head for each eligible animal to offset the cost; determine any animals for eligibility for sample testing, undergo sample testing if eligible, and retain control of the carcass until a negative test result is produced or until final disposal occurs.²⁰⁴ The changes to CABSESP are based on accepted international science-based guidelines and are in compliance with OIE standards.²⁰⁵

The Canadian government and the CFIA have outlined specific policy criteria in the event that any changes are proposed to the current BSE regulatory system and framework. These criteria include; 1) enhancing OIE status, 2) harmonizing with US regulations regarding SRM, 3) reducing regulatory burdens, and 4) continuing to be economically sustainable.²⁰⁶

The next review of, and adjustments to, Canada's EFB program could occur post-2017 or after the next review of Canada's BSE risk status by the OIE.²⁰⁷ The government criteria statement provides that if new funding is required, new funding sources would need to be identified.²⁰⁸ The reference to uncertain funding sources is perhaps of concern given that the federal Minister of Finance neither mentioned agriculture nor food safety, nor funding enhancements to the existing federal BSE program (National Agriculture Food Traceability System) in the recent 2015 budget.²⁰⁹

To further understand the motivation for, and importance of improving Canada's OIE performance, it is useful to understand the role of the OIE and the role of international BSE standards in terms of evaluating and enhancing member-country performance. This will enable comparisons and conclusions regarding different aspects of and approaches to achieving traceability in general.

7.0 INTERNATIONAL BSE STANDARDS

International standards regarding BSE prevention and traceability in cattle are determined by the World Organisation for Animal Health (OIE). The OIE is an international body for animal disease research and science with headquarters in Paris, France. The current OIE strategy regarding BSE prevention mandates that specific measures including animal identification, surveillance and SRM

²⁰² See e.g. Alberta Agriculture and Rural Development, "The Canada and Alberta BSE Surveillance Program: Guidelines For Age Verification In Cattle", online: <[www1.agric.gov.ab.ca/general/progserv.nsf/all/pgmserv187/\\$file/age-determination-guide.pdf](http://www1.agric.gov.ab.ca/general/progserv.nsf/all/pgmserv187/$file/age-determination-guide.pdf)>

²⁰³ Ibid.

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Supra note 171.

²⁰⁷ Ibid.

²⁰⁸ Ibid.

²⁰⁹ See e.g. Karen Briere "Federal Budget Targets Agricultural Trade" (21 April 2015), online:<www.producer.com/2015/045/federal-budget-targets-agricultural-trade/>

removal and prohibition from the food chain be fully implemented to enable early diagnosis and response.²¹⁰

Similar BSE control measures are prescribed by the Centers for Disease Control and Prevention (CDC) with specific emphasis on “surveillance, culling sick animals, or banning specified risk materials”.²¹¹ Canada’s BSE program although effective in terms of surveillance, nevertheless struggles to fully achieve the OIE prevention measures concerning SRM removal and exclusion of SRM from animal feeds.²¹²

The CDC further describes strengthened control and prevention measures in European Union countries as both stringent and highly effective.²¹³ Since 2000 the EU has focused on two significant measures: firstly, testing all carcasses 30 months and older destined for human consumption and, secondly, mandatory SRM removal from all slaughtered cattle.²¹⁴ The OIE ranks member countries annually with respect to self-reported BSE risk status.²¹⁵ It is noteworthy that the US is included with 36 countries identified as negligible BSE risk countries and that Canada ranks with 17 countries identified as controlled BSE risk.²¹⁶ Most EU member countries are identified as BSE controlled risk.²¹⁷

Canada has been categorized by OIE as a controlled BSE risk country since 2007. Negligible risk countries and controlled risk countries must “identify, track and prevent birth cohorts and feed cohorts of known BSE-infected animal(s) from entering the food and feed chains or export trade”.²¹⁸ Canada’s current categorization underscores the importance of animal and premise identification, as well as the importance of BSE prevention measures including SRM removal, the enhanced feed ban protocol and animal surveillance.

Country categories of BSE risk, including “controlled risk” status are initially determined by each member country’s self-reported compliance with the OIE “Terrestrial Animal Health Code” specifically with regard to the following criteria:

- 1) policies designed to protect animal and human health based on an appropriate assessment of risk;
- 2) BSE awareness, education and reporting programs have been implemented;

²¹⁰ World Organization for Animal Health, “Prevention and Control”, online: <www.oie.int/animal-health-in-the-world/bse-portal/prevention-and-control/>

²¹¹ Centers for Disease Control and Prevention, “BSE (Bovine Spongiform Encephalopathy, or Mad Cow Disease- BSE Control Measures” online: www.cdc.gov/ncidod/dvrd/bse/prevention.htm

²¹² Supra note 210.

²¹³ Supra note 211.

²¹⁴ Ibid.

²¹⁵ World Organization for Animal Health, “List of Bovine Spongiform Encephalopathy Risk Status of Member Countries”, online: <www.oie.int/animal-health-in-the-world/official-disease-status/bse/list-of-bse-risk-status/>

²¹⁶ Ibid.

²¹⁷ Ibid.

²¹⁸ Canadian Food Inspection Agency, “Canada Remains a Controlled BSE Risk Country” online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/bse-risk-country/eng>

- 3) appropriate feed ban is in place for at least 8 years if there has been a domestic or imported case;
- 4) there is a diagnostic competency within the laboratory system; and,
- 5) BSE surveillance has been conducted in accordance with the OIE's BSE guidelines.²¹⁹

A country is further categorized as “negligible risk” if it demonstrates that it meets these criteria and further reports that:

- 1) it has never had a case of BSE in a domestic animal; or
- 2) any infected domestic animals were born more than 11 years ago.²²⁰

Canada's current “controlled risk” status is due to the fact that subsequent infected cows, have been determined to have been born in Alberta.²²¹ In light of the recent discovery of a BSE infected animal in February 2015 as well as confirmation that the animal was born in Alberta in March 2009, under current OIE rules Canada will likely be eligible to apply for a review and for upgraded risk status 11 years after the birth date of the most recently born case.²²² Absent additional discoveries in the domestic herd, Canada could conceivably achieve negligible risk status in 2020. Achieving negligible risk status therefore underscores the importance of continued vigilance regarding animal identification as well as accurate record keeping which includes individual animal age and date of birth verification. Canada's challenge is to remain BSE free in the meantime and thereby be eligible for negligible risk status following the next review of risk status by the OIE.

Comparisons with other animal identification and traceability systems will serve as productive in terms of evaluating the current system in Canada. The balance of this paper will evaluate the differences between current animal identification and traceability systems in Canada, the US and EU.

8.0 COMPARISONS WITH US & EU TRACEABILITY

Smith et al. provide the following table which is insightful in terms of understanding and comparing current international cattle identification and traceability systems.²²³ The Smith table also serves to illustrate that animal identification and traceability systems vary widely from one country to another and how Canada ranks overall.

²¹⁹ Canadian Food Inspection Agency, “World Organisation for Animal Health (OIE) BSE Risk Categorization”, online: <www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/risk-categorization/eng>

²²⁰ Ibid.

²²¹ Leroy, *supra* note 5 at 2.

²²² *Supra* note 218.

²²³ Smith, *supra* note 17 at 70.

Country or community	Status of traceability program	Reference	Cattle population 1000 head 2006 ^a	Cattle meat export value 1000 \$US 2005 ^b
European Union	Mandatory, birth to retail	Regulation (EC) No. 178 (2002)	90,355	3,424,361
Australia	Mandatory, birth to slaughter	DAFF, 2006, Meat and Livestock Australia, 2007 and SAFEMEAT, 2007	28,560	167,922
New Zealand	Two systems: one voluntary, on-farm only, for dairy farmers and one mandatory, farm to termination for control of tuberculosis	MAF, 2005 and AITWG, 2005	9652	115,672
Namibia	Mandatory, birth to slaughter for export to EU	Meat Board of Namibia (2002)	2384	NA
Botswana	Mandatory, birth to slaughter for export to EU	DAHP (2005)	3100	NA
Japan	Mandatory, birth to retail	MAFF, 2003, Clemens, 2003 and Sugiura, 2008	4391	24
South Korea	Will be mandatory, birth to retail by late 2008 or early 2009	BTS, 2006, MAFRoK, 2006 and Herd On The Hill, 2007	2484	1

Country or community	Status of traceability program	Reference	Cattle population 1000 head 2006 ^a	Cattle meat export value 1000 \$US 2005 ^b
Brazil	Voluntary, birth to slaughter for export to EU	Stroade et al., 2007 and Cunha, 2008	207,157	2049
Uruguay	Mandatory, from 6 mos of age (or leave farm) to slaughter	NLIS (2007)	11,956	NA
Canada	Mandatory, birth to slaughter; there is also a mandatory, birth to slaughter system in the province of Quebec (Agri-Tracabilité Quebec)	Canadian Livestock Identification Agency, 2005, Canadian Cattle Identification Agency, 2007 and Stitt, 2007	14,830	2049
Mexico	Mandatory, birth to slaughter but not implemented and mandatory, birth to export of live cattle	Luna-Martínez, 2007 and Davis, 2007	28,649	30,204
China	Will be mandatory, birth to retail in the near future	Meatnews.com (2007)	117,767	2234
United States	Voluntary, many cattle are identified for health-control, branded-beef or Non-Hormone Treated Cattle Beef programs	USDA-APHIS (2006)	96,702	43,446

Source: Bowling et al., in press, Murphy et al., in press, Sugiura, 2008, Meatnews.com, 2007 and Cunha, 2008.

Cattle traceability in Canada mandates traceability of individual animals from birth or farm of origin to slaughter.²²⁴ By comparison, animal identification and traceability in Japan and EU member countries is mandatory beyond slaughter, to retail or the consumer.²²⁵

A framework of voluntary animal identification and traceability was implemented in the US in 2002 under the National Animal Identification System (NAIS). NAIS was adopted primarily as a result of two prominent events. These events were: 1) the BSE outbreak in UK and elsewhere highlighting the need for a system to contain animal disease and 2) fears of bioterrorism attacks directed at the national food supply following September 11, 2001.²²⁶ Prior to its cancellation in 2011, NAIS was widely believed to be no longer beneficial or necessary in the US, in light of the fact that most cattle were “identified for health-control, branded-beef or Non-Hormone Treated Cattle Beef Programs”.²²⁷

Opposition to NAIS was further exemplified by vocal anti-NAIS campaigns (including R.CALF) which purported to speak on behalf of cattle producers.²²⁸ Anderson further observes that NAIS was seen by opponents as “...a large expansion of the powers of government, intrusion into our lives, and the next step toward the elimination of all personal rights, property rights, and freedoms”.²²⁹ The popular consensus was that NAIS had proven to be ineffective primarily for two reasons. These included: 1) NAIS was thought to be very expensive, and 2) NAIS was voluntary and consequently had very low producer participation.²³⁰ Prior to its cancellation in 2011, industry and other stakeholders estimated that the cost of NAIS to be well in excess of \$119 million.²³¹

Well before the decision to cancel NAIS, some critics cautioned that traceability in the US red-meat inspection system was no longer competitive when compared to systems implemented by competitors and trading partners.²³² The following observation by Dickinson et al. in 2002 was shared by many detractors of the unpopular US program:

...the US red-meat inspection system is designed principally to control pathogens, while some competitors’ inspection systems are designed not only to control pathogens but also

²²⁴ Ibid.

²²⁵ Ibid.

²²⁶ David P. Anderson, “The U.S. Animal Identification Experience” (August 2010) 42-3 J Agric & Appld Econ, 543.

²²⁷ Ibid.

²²⁸ See e.g. Drover Cattle Network, “R.CALF: 12 days of NAIS Opposition” online: www.cattlenetwork.com

²²⁹ Anderson, supra note 226.

²³⁰ Ibid at 549.

²³¹ Ibid at 547.

²³² David L. Dickinson and Dee Von Bailey, “Meat Traceability: Are U.S. Consumers Willing To Pay For It?”, (2002) 27(2) J Agric & Resource Econ 348.

to trace meat back to its origin and provide information on other “extrinsic” characteristics.²³³

Advocates in favor of mandatory animal identification continue to warn that, as a consequence of dismantling NAIS, the US cattle industry is left at an even greater disadvantage when compared to the direction taken by major trading partners.²³⁴ Shroeder et al. further warn that absent mandatory animal identification prolonged, economic and health consequences could result in the event of a catastrophic occurrence in the US beef industry.²³⁵

In an effort to address the animal identification and traceability vacuum in the US subsequent to NAIS, the federal “Animal Disease Traceability Final Rule” received approval in March, 2013.²³⁶ The Final Rule was introduced by virtue of the federal rule-making process and created a mandatory animal disease regulatory framework to be administered by individual states using lower-cost technology.²³⁷ As a result of the Final Rule the role of the federal government has been reduced to monitoring and supervising compliance with policy documents including the “Animal Disease Traceability General Standards”.²³⁸ The Rule applies only to cattle moving between states in interstate commerce.²³⁹ Consequently, livestock over the age of 18 months that are moved between states, now require official identification by a veterinary certificate of inspection or other owner documentation which includes brand certificates.²⁴⁰ Other than observations shared by Anderson and by Shroeder et al., a formal review of the Final Rule remains to be undertaken.

In a further effort to modernize its food safety framework, the US recently adopted new food safety legislation. The Food Safety Modernization Act (FSMA) came into effect in January, 2011.²⁴¹ The objective of the FSMA is to “...ensure the US food supply is safe by shifting focus from responding to contamination to preventing it” with new provisions relating to inspection, response and imported foods.²⁴²

When comparing animal identification and related measures it is essential to distinguish whether producer participation is voluntary or mandatory and what, if any additional safeguards have been implemented. Like Canada and the EU, the US has mandated the practice of SRM

²³³ Ibid.

²³⁴ Ted C. Shroeder and Glynn T. Tonsor, “Cattle Identification and Traceability: Implications for United States Beef Exports”, Kansas State: Department of Agricultural Economics (AM-GTT-2011.3) at 2.

²³⁵ Ted C. Shroeder and Glynn T. Tonsor, “International Cattle ID and Traceability: Competitive Implications the US” (2012) 37 Food Policy 31 at 39.

²³⁶ USDA, Animal and Plant Health Inspection Service, “Final Rule: Traceability for Livestock Moved Interstate-Summary of General Requirements by Species” online: <aphis.usda.gov/traceability/>

²³⁷ Anderson, *supra* note 226 at 550.

²³⁸ See e.g. United States Department of Agriculture, “Animal Disease Traceability General Standards”, Version No 2.4, (2 January, 2015).

²³⁹ Ibid.

²⁴⁰ Ibid.

²⁴¹ US Food and Drug Administration, “FDA Food Safety and Modernization Act”, online: <www.fda.gov/Food/GuidanceRegulation/FSMA/>

²⁴² Ibid.

removal and disposal from carcasses of cattle 30 months of age and older.²⁴³ In the US, SRM has also been prohibited from human food.²⁴⁴

Describing the global status of mandatory individual animal identification (IAID) in 2008, Smith et al. observe that “lifecycle individual animal identification traceability globally is in its infancy”.²⁴⁵ International import standards for beef are high in many countries and in numerous cases, individual countries require birth to slaughter animal traceability systems.²⁴⁶ In 1997 the EU adopted a “system of permanent identification of individual bovine animals enabling reliable traceability from birth to death”.²⁴⁷ These measures became mandatory in all EU member countries in 1999.²⁴⁸ The EU system of identification and registration mandated additional attributes including double ear tags and individual animal numbers, individual and separate premise registries, cattle-passports and a computerized national database.²⁴⁹

Quality assurances are especially emphasised in recent EU agricultural product quality policy documents. In 2013 the EU implemented new agricultural product quality regulations to create a “more robust framework for the protection and promotion of quality agricultural products”.²⁵⁰ The current EU agricultural product quality regulatory framework has four specific objectives to achieve increased depth of animal identification including:

- 1) more coherence and clarity to the EU quality schemes,
- 2) a reinforcement of the existing scheme for protected designations of origin and geographical indications,
- 3) overhauling the traditional specialties guaranteed scheme,
- 4) laying down a new framework for the development of optional quality terms to provide consumers with further information.²⁵¹

EU compliance and future export eligibility on the part of EU trading partners requires that traceability also include post-slaughter and group lot identification (GLID) traceability.²⁵² This mandates traceability beyond slaughter to processing and packaging. For this and other reasons it can be argued that existing beef traceability measures in the EU compare favorably with existing traceability measures in Canada and the USA. Souza-Monteiro et al. describe overall precision and features of animal identification in the EU as follows:

The system of animal identification through passports enable authorities and producers to track animal diseases easily and quickly because the passport records every place the

²⁴³ Specified Risk Materials From Cattle and Their Handling and Disposition Regulation, 9 CFR 310.22, online: www.fsis.usda.gov/wps/portal/fsis/topics...1/specified-risk-material

²⁴⁴ Ibid.

²⁴⁵ Smith, *supra* note 17 at 67.

²⁴⁶ Ibid.

²⁴⁷ European Commission, “Identification of Bovine Animals (cattle and buffaloes)”, online: <ec.europa.eu/food/animal/identification/bovine/index_en.print.htm>

²⁴⁸ Stanford, *supra* note 118 at 511.

²⁴⁹ Dickinson, *supra* note 232.

²⁵⁰ European Commission, “EU Agricultural Product Quality Policy”, online: <ec.europa.eu/agriculture/quality/>

²⁵¹ Ibid.

²⁵² Smith, *supra* note 17 at 66.

animal has been. Since the animal identification system is combined with compulsory labeling, human health hazards are also quickly identified and more easily controlled.²⁵³

They conclude that “the EU is leading the introduction of traceability system(s) worldwide and is the main driver in establishing world standards”.²⁵⁴

Given that traceability in Canada does not extend beyond slaughter to retail, the benefits of traceability offered to the supply chain are not as extensive when compared to the EU cattle passport system. Some argue however, that given the relatively sophisticated design of the Canadian system, information regarding animal health benefits could, and for that reason should be included.²⁵⁵ The Canadian system arguably falls short of measures adopted by the EU “in terms of potential human health benefits as it does not record information beyond abattoirs”.²⁵⁶

9.0 OBSERVATIONS & CONCLUSION

The Alberta traceability framework specifically facilitates management and control of animal diseases that threaten food safety. Benefits of animal identification and traceability are not necessarily confined to cattle producers or to the cattle industry. Benefits of the existing framework include precise animal identification and strategies for response in the event of the discovery of a reportable or notifiable animal disease with an emphasis on protecting both animal and human health.²⁵⁷ Fully implemented traceability offers potential benefits in terms of facilitating product recalls, inspiring consumer confidence in food products, and securing export markets. In the end result, traceability translates to the new reality, whereby domestic and export food producers can no longer produce and distribute food anonymously.

The regulations in place at the time of the 2003 discovery, are credited with considerable success in terms of containing and managing BSE in Alberta. This includes rapid identification of animal cohorts. Additional discoveries of BSE in Alberta and worldwide have resulted in further reforms and improvements to traceability regulations in general. The “three pillars of traceability” were fully implemented and mandatory in Alberta under new or amended legislation and regulations that came into effect on January 1, 2009.

The Alberta traceability framework is defined as meaningful for several reasons. These include: 1) fully implemented traceability provides a record and data base of animal identification, premise identification, and animal movement and, in doing so, Alberta has gone beyond the basic requirements of the federal system; 2) existing traceability facilitates individual animal identification from farm of origin to slaughter and export; 3) with respect to BSE specifically, existing traceability has proven on several occasions to provide precise and rapid management and control;²⁵⁸ 4) producer participation and compliance in Alberta is mandatory; 5) inspections make

²⁵³ Souza-Monteiro, supra note 119 at 9.

²⁵⁴ Ibid.

²⁵⁵ Ibid at 19.

²⁵⁶ Ibid.

²⁵⁷ See e.g. Reportable Regs, supra note 93.

²⁵⁸ Interview of Stefanie Czub, D.V.M., Ph.D, Research Manager, (20 March, 2015), Calgary, Canadian Food Inspection Agency.

for both robust and transparent traceability as well as producer compliance;²⁵⁹ 6) consistent traceability is enforced by inspections and fines, including monetary penalties.²⁶⁰

It is also significant that existing provincial regulations in most cases, specifically provide for “sun-set clauses” and expiration dates that provide for regular reviews in terms of ongoing relevancy and necessity.²⁶¹ Regular reviews could serve to address specific reforms including precise and uniform use of language in the overall provincial framework of statutes and regulations. Reforms could also address harmonization and clarity in terms of achieving the use of uniform language and terminology between the existing federal and provincial frameworks. An example is the apparent variation between the definitions of disease including communicable and reportable disease contained in the federal *Health of Animals Act*, the *Health of Animals Regulations* and the *Reportable Diseases Regulations* as well as those defined in the provincial *Animal Health Act* and *Reportable and Notifiable Diseases Regulation*.²⁶² Another potentially problematic example deserving harmonization is the significant contrast between the fines and penalties provided under both the provincial and federal statutes and regulations.²⁶³

Efforts to strengthen and improve traceability should keep in mind that voluntary traceability is not meaningful traceability. Lessons learned from the voluntary NAIS program in the US serve as proof. Mandatory traceability beyond slaughter serves to explain why the EU model of traceability is described as a leader among beef producing markets. While the EU standards of traceability are very high, they are also very expensive to install and maintain.²⁶⁴ Concerns in Canada regarding government fiscal restraints and future sources of funding could result in fewer trained technicians and inspectors on the ground.²⁶⁵ Funding sources are also essential to support ongoing scientific research concerning animal disease. Regulatory oversight and sound fiscal management are imperatives to meaningful traceability.²⁶⁶ Federal and provincial economic policy should guarantee that regulation of food safety continues to be both affordable and sustainable. Statutory, as opposed to annual government budgetary funding of food safety should be given priority in this discussion.

The existing traceability framework and infrastructure should be further exploited to share both value-added initiatives and product attributes with consumers. This could be especially significant to consumers if existing traceability was expanded to include retail and consumption. Product attributes of particular relevance to consumers include the size of a farm, animal origin and breed, feeding practices including grass fed or grain finished, added ingredients including antibiotics, steroids and growth hormones, details of slaughter including dates, animal age, animal health and product quality assurances including producer certifications and other guarantees. Sharing product attributes with consumers is arguably beneficial in terms of product marketing and efforts to capture specific domestic and export niche markets for premium products. Numerous

²⁵⁹ Ibid.

²⁶⁰ Ibid.

²⁶¹ See e.g. Reportable Regs, supra note 93 at s 9. See also Premise ID Reg, supra note 152 at s 8.

²⁶² See e.g. Reportable Diseases Regs, supra note 64 and Reportable Reg, supra note 52 at s 2.

²⁶³ See e.g. H of A Act, supra note 43 at s 65 & s 66. See also A H Act, supra note 55 at s 67 & s 68.

²⁶⁴ Stanford, supra note 118 at 511.

²⁶⁵ Czub, supra note 258.

²⁶⁶ Ibid.

studies have demonstrated that consumers are willing to pay a premium for added product attributes.²⁶⁷

To expand and ultimately capture export opportunities, harmonization of traceability regulations with other beef markets should be a priority. Recent changes in the US regarding animal identification and traceability could present challenges in terms of achieving full harmonization. That said, regulations that govern SRM removal remain essentially identical and this is also the case in the EU.

Harmonization and alignment with the EU in terms of achieving mandatory traceability beyond slaughter would likely produce considerable benefits for domestic consumers and also enhance trade opportunities for cattle producers. The EU cattle passport model offers additional transparency and has potential relevance, as well as value to Canadian consumers. It also offers benefits in terms of improvements to crop and horticultural product traceability as well as product labelling in general.²⁶⁸ Management and control measures including product traceability do not achieve food safety alone. Science-based regulations that both reflect scientific evidence and address BSE prevention play a significant role.

BSE in cattle is “in most cases a man-made disease”.²⁶⁹ Scientific research attributes the origin, as well as recent discoveries of BSE to inventories of manufactured or man-made animal feed products that are contaminated with BSE infected ingredients, including animal organs and nerve tissue.²⁷⁰ For this reason, BSE is, like many other threats to the natural environment, caused by human activity. Examples that come to mind include toxic spills and climate change. Man-made environmental challenges are, in most cases, preventable through enhanced environmental stewardship and regulation.

The precautionary principle is significant in terms of including objective measures that, for example, mandate the removal of specific organs and tissue (SRM) from carcasses at slaughter before being further processed and packaged. These measures further prohibit the use of SRM in animal (EFB) and human food, and provide for enhanced surveillance of cattle in the form of *post mortem* testing for BSE on carcasses of animals between 30 months and 107 months of age. Together these measures are described as “very significant in terms of BSE prevention”.²⁷¹ SRM in feed inventories is believed to be the root cause of recent BSE discoveries in Alberta.²⁷² Further precaution mandates the destruction of SRM at slaughter.²⁷³ Equivalent SRM measures were adopted in the US and EU. Continued vigilance regarding SRM removal and preventing SRM contamination of cattle feed is clearly significant in terms of preventing further discoveries of BSE infection and in terms of future efforts to eradicate BSE altogether.²⁷⁴

²⁶⁷ See e.g. Babatunde O. Abidoye et al. “U.S. Consumers’ Valuation of Quality Attributes in Beef Products”, *J of Agric & App’d Econ*, 43-1 (February 2011) at 1-12.

²⁶⁸ See e.g. Carlberg, *supra* note 14 at 564.

²⁶⁹ Czub, *supra* note 258.

²⁷⁰ Interview of Hermann M. Schatzl, M.D., Dr.Med., Professor Prion Biology & Immunology, (6 March, 2015), Calgary, University of Calgary.

²⁷¹ *Ibid.*

²⁷² *Ibid.*

²⁷³ *Ibid.*

²⁷⁴ *Supra* note 189.

Existing AMPs and penalties under the *Health of Animals Act* and regulations, although potentially severe, remain somewhat problematic. There remains potential uncertainty, as well as disparity regarding specific penalty provisions and inadequate definition in terms of their application. It is not clear whether the AMPs are intended to replace or supplement existing penalty provisions contained in specific Statutes and Regulations. The Health Canada policy statement describes the purpose of the AMPs as an alternative to the penal framework to supplement enforcement measures and to achieve a fair and efficient monetary penalty under the agri-food related Acts. By their very nature, policy statements are an unreliable source of regulatory clarity.

Given the specified maximum penalties provided under the AMPs as well as penalties actually imposed under the AMPs it remains uncertain whether monetary and other penalties are intended to achieve a restitution or polluter pays result. It is further uncertain whether the AMPs are intended to reflect traditional sentencing principles including deterrence, restitution and rehabilitation. If deterrence and rehabilitation are contemplated, the objective should be, at least in part, to achieve meaningful penalties and compensation for harms suffered. Similar observations can be made regarding the adequacy of penalty provisions contained in the *Alberta Animal Health Act* and provincial regulations governing animal disease and traceability.²⁷⁵ The actual dollar amount of fines provided for under the AMPs and provincial statutes are arguably inadequate to either serve as a deterrence or to ultimately secure consumer product safety. It is doubtful that fines under either achieve adequate restitution.

The recent Health Canada policy statement specifically states that AMP penalties can neither include nor result in a criminal record or imprisonment.²⁷⁶ In the case of a very serious violation aggravated by a history of violations, gross negligence or recklessness as well as very serious harm, the maximum penalty calculated under the AMPs with adjustments is \$15,000. Indictable offences under the *Health of Animals Act* on the other hand are subject to a fine not exceeding \$250,000 and a term of imprisonment not exceeding two years. In practice, it is likely that an order or compliance agreement, offers short term resolution, but again, these measures often fail to adequately address either restitution and other sentencing principles.

Given that food safety and human health are ultimately at issue, a fair and efficient approach demands that penalties be calculated and quantified to reflect the harm done and the polluter pays principle. If this isn't the case, it should be. Efforts to both clarify and strengthen the existing penalty framework should be undertaken. The cost of regulating food safety and ultimately the cost of clean ups, should not present a burden to governments and ordinary law-abiding producers. This was however, the case after the 2003 discovery. Associated costs including the loss of exports and government recovery programs exceeded 10.5 billion dollars.²⁷⁷ Meaningful traceability regulations can achieve both fairness and efficiency when they are collaborative and when the associated costs of regulation are shared equitably by government, industry, and consumers. More importantly, meaningful regulations and monetary penalties achieve fairness and efficiency when they concurrently achieve deterrence and rehabilitation.

²⁷⁵ See A H Act, supra note 56 at s 68.

²⁷⁶ Supra note 876.

²⁷⁷ Loppacher, supra note 6.

Costs, including the cost of repairing harm done as a result of negligent or purposeful noncompliance should, wherever possible be recovered from the parties responsible.

Meaningful traceability in agriculture has relevance and application throughout the food chain. Animal identification and traceability played a significant role in terms of eradicating brucellosis and tuberculosis in cattle during the last century. Together with SRM and EFB, traceability can play a significant role in the prevention of BSE. The future role of animal identification and traceability in Alberta's cattle herd is essential and has tremendous potential in terms of sharing product attributes. Additional consumer benefits of traceability in beef and other food products will eventually be determined by domestic consumer and export demand. Consumer willingness to pay will be a significant factor.²⁷⁸ The role of precautionary measures and other regulations in food safety demands vigilance and compliance. Ongoing inspections and enforcement of penalties are vital to these efforts. Future reforms, including clarification of the current penalty framework and changes to federal and provincial penalty options deserve the collective attention of policy makers and industry stakeholders, alike. The common goal, after all, is to secure a safe and reliable source of food for all consumers.

²⁷⁸ See e.g. Jill E. Hobbs, "Consumer Demand for Traceability" (2003), International Trade Research Consortium, Working Paper No 03-1.